BBC ELETTROPOMPE
Via G. Di Vittorio, 9
61034 Fossombrone (PU) - Italy
Tel. +39 0721 716590
Fax +39 0721 716518
www.bbc.it
bbcpompe@bbc.it

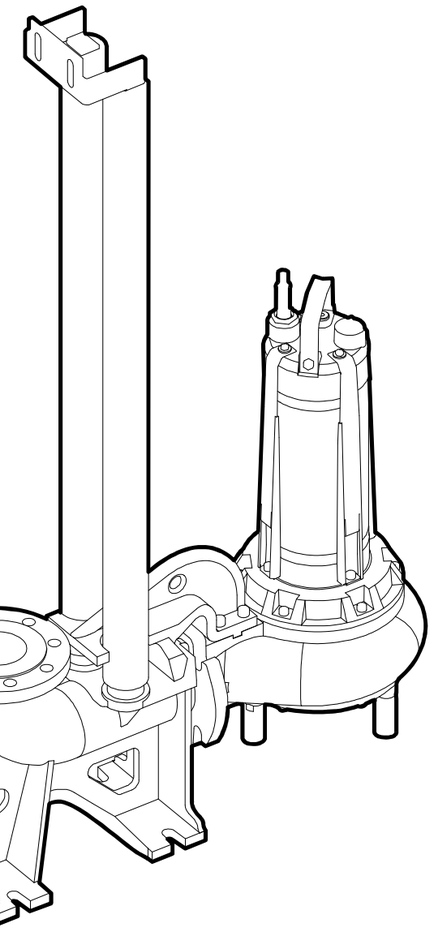
GB

SEMISOM /80

GB *ELECTRIC SUBMERSIBLE PUMPS*
for sewage water

USER'S AND INSTALLATION MANUAL

"Translation of the Original Instructions"



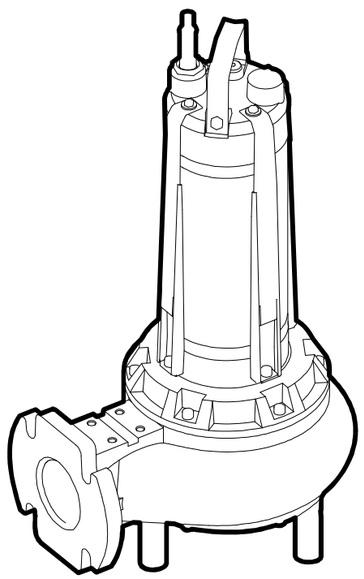


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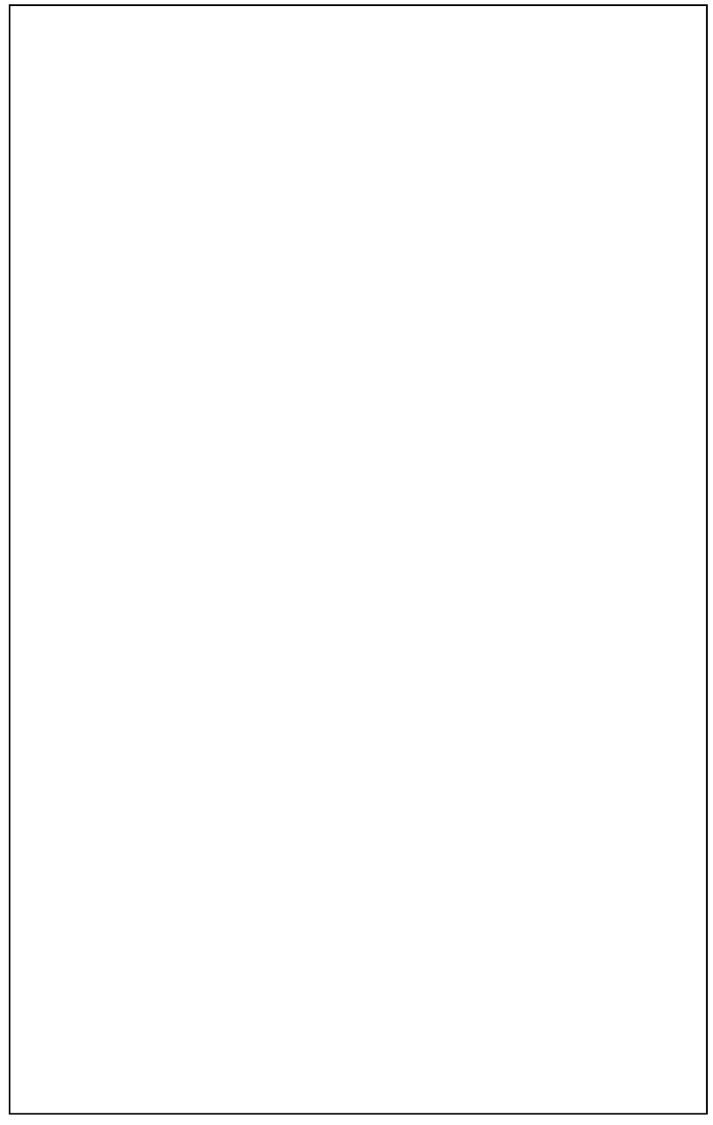
PLATE DATA



*IT - **Costruttore** e luogo di archiviazione del fascicolo tecnico:*
*GB - **Manufacturer** and place where all technical records are filed:*
*FR - **Constructer** et place ou tout le dossier technique est déposé:*
*DE - **Hersteller** und Ort der Aufbewahrung der technischen Unterlagen:*
*ES - **Fabricante** y el lugar donde todos los expedientes técnicos se presentan:*

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Tel. +39-0721-716590 - Fax +39-0721-716518 - www.bbc.it

IT - DICHIARAZIONE CE DI CONFORMITA':

Prodotti: elettropompe serie SEMISOM ..../80 (vedi elenco a pagina 12)
Dichiariamo che i prodotti sopraelencati sono conformi alle seguenti Direttive:
- **MACCHINE 2006/42/CE;**
- **BASSA TENSIONE 2006/95/CE;**
- **COMPATIBILITA' ELETTROMAGNETICA 2004/108/CE**

ed alle seguenti norme armonizzate:
- **SICUREZZA DEL MACCHINARIO UNI EN ISO 12100**

GB - CE STATEMENT OF CONFORMITY:

Products: electric pumps series SEMISOM ..../80 (see the list on page 12)
We declare that the products listed above comply with the following Directives:
- **MACHINERY 2006/42/EC;**
- **LOW VOLTAGE 2006/95/EC;**
- **ELETROMAGNETIC COMPATIBILITY 2004/108/EC.**

and to the following harmonised standards:
- **SAFETY OF MACHINERY UNI EN ISO 12100**

FR - DECLARATION CE DE CONFORMITE:

Produits: electropompes serie SEMISOM ..../80 (voir la list à la page 12)
Nous déclarons que les produits énumérès ci-dessus sont conformes aux Directives suivantes:
- **MACHINES 2006/42/CE;**
- **BASSE TENSION 2006/95/CE;**
- **COMPATIBILITE ELECTROMAGNETIQUE 2004/108/CE.**

et aux norme harmonisées suivantes:
- **SÉCURITÉ DES MACHINES UNI EN ISO 12100**

DE - KONFORMITÄTSERKLÄRUNG CE:

Produkte: Elektropumpen Serie SEMISOM ..../80 (siehe Liste auf Seite 12)
Wir, den hier unterzeichnende, daß die vorgenannten Produkte entsprechen folgenden Richtlinien:
- **MASCHINENRICHTLINIE 2006/42/EG;**
- **NIEDERSPANNUNGSRICHTLINIE 2006/95/EG;**
- **RICHTLINIEN DER ELEKTROMAGNETISCHEN KOMPATIBILITAT 2004/108/EG.**

und den folgenden harmonisierten Normen:
- **SICHERHEIT VON MASCHINEN UNI EN ISO 12100**

ES - DECLARACION CE DE CONFORMIDAD:

Productos: electrobombas serie SEMISOM ..../80 (véase la lista en la página 12)
Declaramos que los productos arriba indicados se hallan conformes a las Directivas siguientes:
- **MAQUINAS 2006/42/CE;**
- **BAJA TENSION 2006/95/CE;**
- **COMPATIBILIDAD ELECTROMAGNETICA 2004/108/CE.**

y a las normas armonizadas siguientes:
- **SEGURIDAD DE LAS MÁQUINAS UNI EN ISO 12100**

Fossombrone, 08/07/2014

Il Legale Rappresentante
Mario Cecchini

BBC ELETTROPOMPE
Via G. Di Vittorio, 9
61034 Fossombrone (PU) - Italy
Tel. +39 0721 716590
Fax +39 0721 716518

MANUAL UPDATING DIAGRAM

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TABLE OF CONTENTS

	Section	Page
WARRANTY		4
SOME REMARKS ABOUT THE USER'S MANUAL		4
PRELIMINARY INFORMATION	**1**	**5**
- LETTER ON DELIVERY	1.1	5
- MACHINE IDENTIFICATION	1.2	5
- GENERAL INFO AT DELIVERY	1.3	5
- DESCRIPTION OF THE SEMISOM/80 ELECTRIC SUBMERSIBLE PUMP	1.4	6
- USE (PURPOSE — SPECIFIC USE)	1.4.1	6
- IMPROPER USE	1.4.2	6
- PLACE OF USE	1.4.3	6
- MAIN PARTS OF THE ELECTRIC PUMP	1.4.4	6
SAFETY INSTRUCTIONS	**2**	**8**
- MAIN SYMBOLS AND THEIR MEANING		8
- CONTENT		9
TECHNICAL FEATURES	**3**	**12**
HANDLING, INSTALLATION AND CONNECTION	**4**	**14**
- PRELIMINARY INFORMATION ABOUT INSTALLATION AND CONNECTION	4.1	14
- INSTALLATION WITHOUT DESCENT AND ANCHORAGE DEVICE (OPTIONAL)	4.2	15
- CHECK OF THE SENSE OF ROTATION	4.2.7	16
- INSTALLATION WITH DESCENT AND ANCHORAGE DEVICE(OPTIONAL)	4.3	18
- ELECTRIC CONNECTION	4.4	21
START	**5**	**23**
STOPPING AND CLEANING	**6**	**23**
MAINTENANCE	**7**	**24**
TROUBLES AND CLEANING	**8**	**24**
CE DECLARATION OF CONFORMITY		**26**

GB

WARRANTY

The products have a 24 months warranty against manufacturing defects starting from their installation.

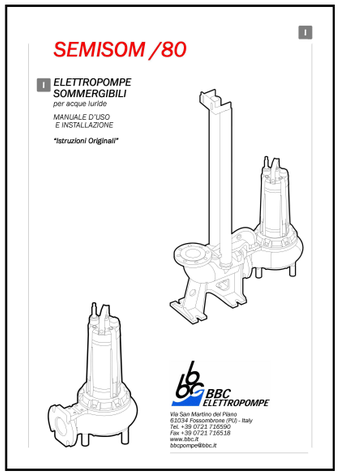
The guarantee is limited to either replacement or repairing, at our workshop, of defective products or pieces and does not imply any possible request for indemnity.

The guarantee does not include troubles due to wrong electric connection, lack of suitable protection, faulty assembling, wrong operations, defects of installation, any kind of corrosion and abrasion due to the pumped liquid as well as non-observance of the use provided for (point 1.4.1) in the User's and installation Manual.

The guarantee is not valid if products are disassembled, repaired or tampered with by unauthorized personnel.

SOME REMARKS ABOUT THE USER'S MANUAL

The User's Manual is not one accessory of the ELECTRIC PUMP, but it is integral part of the ELECTRIC PUMP itself and represents a SAFETY MEASURE (EN 292/1).



In order to make the consultation of the Manual easier, each subject has been divided into numbered points, which, when required while acting, are shown also on the drawings.

This manual has to be kept properly, near the electric pump and delivered to any operator, user or owner.

The manual shall not be damaged; it must be kept integral – do not tear any sheets –, be kept far from humidity and heat sources. While consulting, try not to damage its readability.

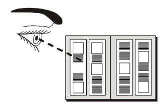
The sections to which to pay most attention are put into evidence with symbols and detailed illustrations above the pictures.
Giving these notices, the Manufacturer aims at drawing – in unequivocal way – the operator's attention to ***measures****,* ***dangers*** *and* ***warning*** *related to him/her.*

TROUBLE	POSSIBLE CAUSE	REMEDY
1) The electric pump does not start	No power supply	Make sure that there is voltage in the mains
	Intervention of the thermal protection	See point 3) Thermal protection intervention
	Burnt-out fuses	Replace fuses
	Cut-off of one phase	Restore the phases
	The thermal trip has switched the pump off	Wait until temperature falls down
	The water detection probe in the first chamber has switched the pump off	Restart the control device. If the device stops again, please contact BBC Elettropompe
	The power cable is damaged	Please contact BBC Elettropompe
2) The electric pump is running but its flow rate is reduced	Clogged suction	Clean
	Clogged pipes or valves	Clean
	Impeller excessively worn out	Please contact BBC Elettropompe
	The sense of rotation of the impeller is inverted	Invert two phases
	Low liquid level	Turn the Mains Switch on "O" and let the liquid level up
3) Thermal protection intervention	The sense of rotation of the impeller is inverted	Invert two phases
	Wrong power supply parameters	Supply the electric pump with the power supply parameters indicated on the plate
	Cut-off of one phase	Restore the phase
	Clogged impeller	Clean
	Wrong calibration	Carry out a new calibration
4) The intervention of the thermal trip is frequent	Motor out from the liquid to be pumped	Increase the liquid level inside the basin
	Broken thermal trip	Please contact BBC Elettropompe

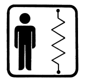
SECTION 7
MAINTENANCE

As for any maintenance, repairing and cleaning (that ***FOR LONG STOPS OR PERIODS OF IDLENESS*** *excepted), please contact BBC Elettropompe which will provide you with all relevant instructions.*

SECTION 8
TROUBLES AND REMEDY



8.1
*Read this user's and installation manual carefully and, particularly, read and understand the "****Safety Instructions****" of Section 2 .*



8.2
The operations marked with this symbol must be carried out by an ***ELECTRIC MAINTENANCE OPERATOR OR TRAINED PERSONNEL*** *(see EN 60204-1, point 3.52).*

8.3
The operations marked with this symbol must be carried out by a ***MECHANICAL MAINTENANCE OPERATOR****.*

8.4
The operations marked with this symbol can be carried out by an ***OPERATOR****.*

SECTION 1
PRELIMINARY INFORMATION

1.1
LETTER ON DELIVERY

The SEMISOM/80 ELECTRIC PUMP is manufactured in compliance with the Directives 2006/42/CE; 2006/95/CE and 2004/108/CE and with the harmonised standards UNI EN ISO 12100

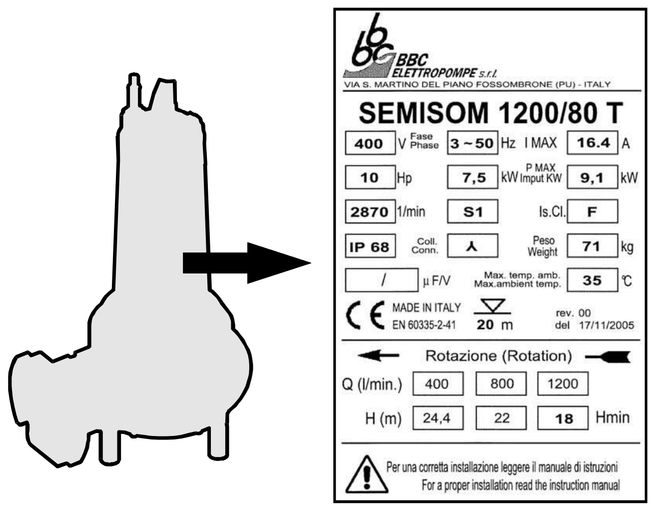
BBC informs that any modifications or tampering to the ELECTRIC PUMP and/or operations carried out in non-compliance with the provisions of this manual, especially the non-observance of the Safety Regulations, imply the non-validity of the Warranty and make the EC Declaration of original Conformity invalid.

Please, remind that:
The technical data are referred to the electric pump Semisom/80 (SEE SECTION 3 – TECHNICAL PARTICULARS); drawings and any other documents are owned by BBC which reserves all the relevant rights and the same can not be put at third parties' disposal without BBC written authorization.

For this reason, any reproduction – even if partially – of text and illustrations is strictly prohibited.

1.2
MACHINE IDENTIFICATION

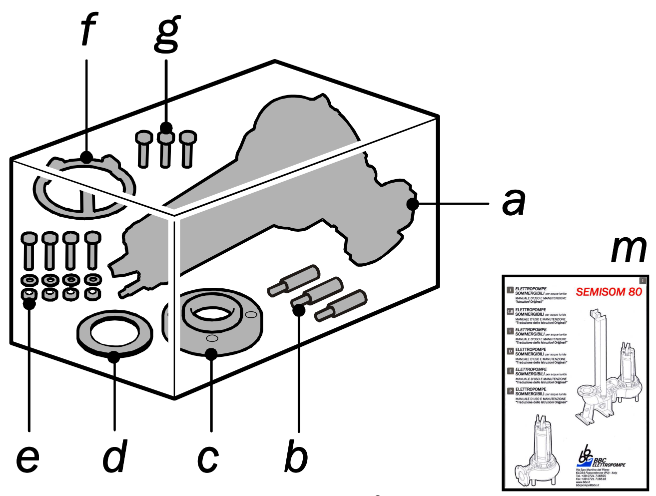
In case of contact with BBC or its customer service, as to subjects related to the SEMISOM/80 electric submersible pump, always mention the model.
Transcribe the type of electric pump, so that a copy of the manual can be requested, should this one be lost and/or should the label be unreadable.

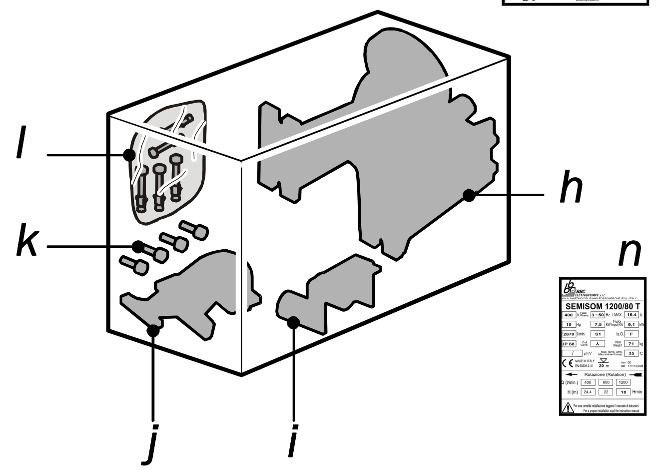


1.3
GENERAL INFORMATION AT DELIVERY

The electric submersible pumps Semisom/80, as well as their pieces and/or accessories, are delivered inside one wooden box and one cardboard box (accessories).
In any case, when you receive them, always check that:
- *the packaging must be integral;*
- *the electric pump and its accessories have not been damaged.*

Should there be any damage or missing parts, inform the supplier, the forwarding agent or his insurance company immediately, providing him detailed information.





DESCRIPTION

a - Semisom /80 electric pump
b - Electric pump support
c - flange DN 80 (optional)
d - Gasket (optional)
e - Bolts and washers TE M16x70 (optional)
f - Bearing base (optional)
g - Screws TE M16x25 (optional)
h - Coupling foot (optional)
i - Tube support (optional)
j - Connection claw (optional)
k - Screws TCEI M10x30 (optional)
l - Inserts for foot and support (optional)
m - User's manual and installation
n - Plate data

1.4 DESCRIPTION OF THE ELECTRIC SUBMERSIBLE PUMP SEMISOM /80

1.4.1 USE
(PURPOSE - SPECIFIC USE)

The electric submersible pump Semisom /80 is designed for:

- collection of sewage water and mud, conveying of drainage water, waste water, sewage water and sewage of septic tanks
- pumping of liquids containing filamentous solid matters and activated sludge (by maintaining their relevant biologic process with a 4-pole 1400 RPM motor).

1.4.2 IMPROPER USE

CAUTION DANGER OF FIRE AND TOXICITY!
THE ELECTRIC PUMP MUST NOT BE USED TO PUMP DANGEROUS LIQUIDS (either inflammable or toxic).

*Any other use different from the **PROVIDED USE FOR** has to be considered as improper use.*

1.4.3 PLACE OF USE

CAUTION DANGER OF EXPLOSION!
THE ELECTRIC PUMP MUST NOT BE INSTALLED IN EXPLOSIVE PLACES.

CAUTION DANGER OF ELECTROCONDUCTION!
THE ELECTRIC PUMP MUST NOT BE INSTALLED IN PLACES WHERE THERE ARE PEOPLE IN CONTACT WITH LIQUIDS (i.e. swimming-pools).

*Max. installation depth **20 mt.***

Minimum and maximum operating temperature of the pumped liquid:
*- **0 / 50 °C** for **continuous** duty.*

The electric pump Semisom/80 has no vibrations and its noise is below 70 db (A).

In case of applications different from those provided for in this manual, please contact BBC Elettropompe.

1.4.4 MAIN PARTS OF THE ELECTRIC PUMP

A - *Cast iron impeller*

B - *Water detection probe: it indicates the presence of water inside the first chamber*

C - *Thermal trip: it detects the temperature of the motor heat preventing its overheating*

D - *Bearing 3206 ATN9*

E - *Graphite and ceramics mechanical seal inside the first chamber (lubricated with Castrol Magna 68 oil).*

F - *Silicon carbide and ceramics mechanical seal In contact with the liquid to be pumped*

G - *Stainless steel tie-rods*

H - *Stainless steel motor casing*

I - *Stainless steel motor shaft*

J - *Stainless steel handle*

K - *Cast iron cover*

L - *Cast iron flange*

M - *Cast iron volute*

N - *Cast iron support*

O - *Cast iron foot*

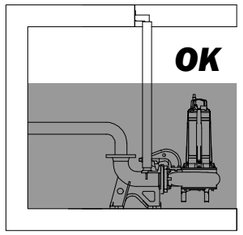
P - *Cooling liquid asynchronous motor (Agip Acer 15 Oil)*

Q - *Cast iron seal-holder*

SECTION 5 START-UP

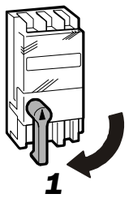
5.1
*The operator must have read this user's and installation manual and, particularly, well read and understood the "**Safety Instructions**" of Section 2 .*

5.2
Before starting the electric pump, make sure that there is liquid to be pumped inside the basin and that the electric pump is submersed.



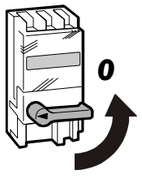
5.3
Make sure that either basin or pit are properly closed.

5.4
Turn the MAINS SWITCH on "1" to start the electric pump.



The electric pump is started and the extraction of liquid begins.

5.5
Turn the MAINS SWITCH on "0" to stop the electric pump.

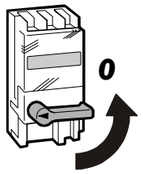


5.6
The START-UP is completed.

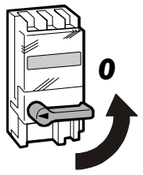
SECTION 6 STOPPING AND CLEANING

6.1
The operator must have read this user's and installation manual and, particularly, well read and understood the "Safety Instructions" of Section 2.

6.2
Turn the MAINS SWITCH on "0" to stop the electric pump.



6.3
IN CASE OF LONG PERIODS OF STOP IT IS NECESSARY :
a - to turn the MAINS SWITCH on "0"



*b - **CAUTION-DANGER OF ELECTRIC SHOCK! This operation shall be carried out by an ELECTRIC MAINTENANCE OPERATOR***

Disconnect the power supply cable from the terminal board of the MAINS SWITCH

c - Pull out the electric pump

d - Clean all its parts properly, by using a hot-water cleaner

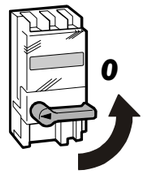
e - Roll up the power supply cable

f - Store it in a place where the temperature does not fall below 0° .

6.4
STOPPING AND CLEANING are completed.

Make ABSOLUTELY WATER-PROOF JOINTS .

4.4.10
CONNECTION



Turn the MAINS SWITCH on "0" (zero).

The electric pump SEMISOM/80 is supplied with a seven-wire power supply cable .

The yellow/green wire has to be connected to the earthling system and must be longer than the power wires. *In case of tearing, it will be the last wire to be disconnect.*

The (blue - brown - black) power wires:

- *have a 2,5 mm² section*
- *must be protected by fuses or magnetic switch from short circuits and by thermal switch from motor overload (carry out the thermal protection calibration according to the motor absorption as per the plate)*
- *must be connected to the terminals U – V — W of the control and protection panel.*

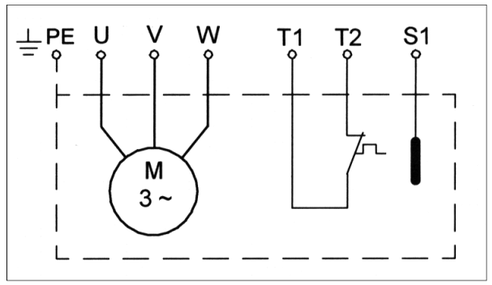
The white wires:

- *have a of 0,75 mm² section*
- *are connected to the automatic restart bimetallic thermal sensor (thermal trip) placed near the winding*
- *must be connected in series to the control contactor coil and open the circuit in case of motor overheating.*

The green wire:

- *has a of 0,75 mm² section*
- *is connected to the probe for water detection inside the first chamber*
- *must be connected to the level control device to be installed inside the non-supplied panel .*

4.4.11
CONNECTION DIAGRAM



PE	***YELLOW/ GREEN***	*Earth wire*
U ***V*** ***W***	***BLUE*** ***BROWN*** ***BLACK***	*Power wires*
T1 - T2	***WHITE***	*THERMAL TRIP To be connected in series to the coil of the control contactor. (Not supplied with the electric pump).*
S1	***GREEN***	*WATER DETECTION PROBE IN THE FIRST CHAMBER To be connected to level control device, with earth common terminal. (Not supplied with the electric pump).*

NOTES!

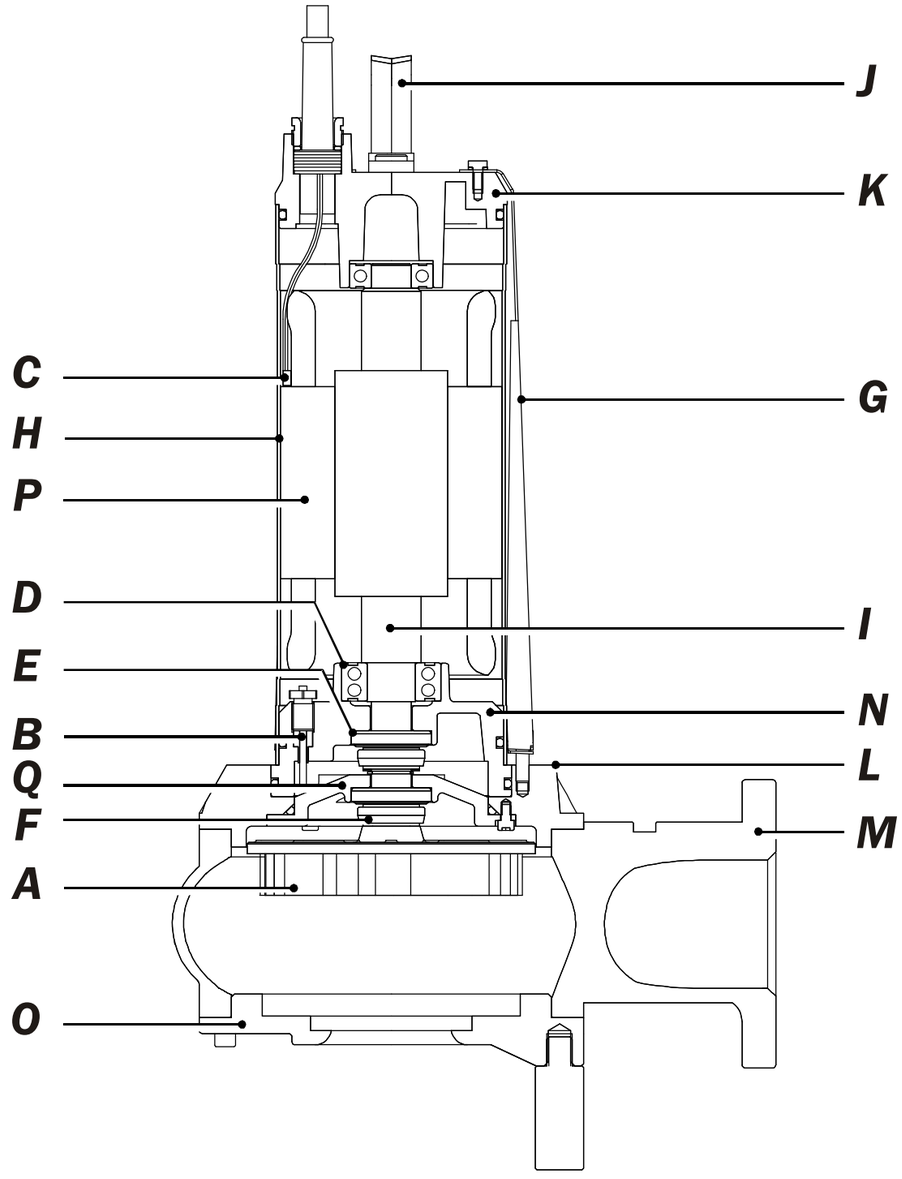
Make sure that the electric cables are in good state and the terminals are well tightened to relevant clamps.

Check periodically the correct functioning of the differential gear by pushing the test key . A periodic check of the correct functioning of the electric protections is also recommended.

In case of intervention of one of the protections, check the reason before restoring the system.

Install the control and protection devices in rooms suitable to their IP protection degree.

4.4.12
THE ELECTRIC CONNECTION is finished .



SECTION 2
SAFETY INSTRUCTION

While consulting this user's manual you will find some symbols that have a precise meaning.

CONVENTIONAL SYMBOLS AND THEIR DEFINITION

CAUTION! DANGER OF ELECTROCUTION!
It indicates to the concerned personnel that the described operation presents risk of ***electric shock*** *if it is not carried out in compliance with the safety regulations.*

CAUTION! GENERAL DANGER!
It indicates to the concerned personnel that the described operation presents risk of physical injury ***SPECIFIED IN TEXT AND SYMBOLS****, if it is not carried out in compliance with the safety regulations.*

NOTE!
It indicates to the concerned personnel information whose subject is to be taken into particular consideration or is important.

WARNING!
It indicates to the concerned personnel information whose subjects, if not observed, may provoke slight injury to persons or damage to the machine.

OPERATOR
Identifies qualified personnel, that is to say with the specific skills required for manual operations.

The operator is absolutely prohibited to carry out operations reserved to the ELECTRIC OR MECHANICAL MAINTENANCE OPERATOR*.*

MECHANICAL MAINTENANCE OPERATOR
Qualified technician able to manage the machine in normal conditions and able to operate on the mechanical parts in so to carry out all adjustments, maintenance interventions and repairs required .
He/she is not qualified to operate on electric systems with voltage presence.

ELECTRIC MAINTENANCE OPERATOR OR TRAINED PERSON (see EN 60204-1 point 3.52)
Qualified technician able to operate the machine in normal conditions. He/she is put in charge of the interventions of electric adjustment, maintenance and repairing.
He/she is able to operate with voltage presence inside electric panels or control boxes.

PERSONAL PROTECTION
The operator is ***OBLIGED*** *to use devices for personal protection in presence of one of these symbols is present.*

RECOMMENDATION
It is referred to a method of work experienced at the factory, keeping in mind that each operator will develop his/her own way to operate.

SPECIAL INTERVENTIONS
Any special maintenance interventions evidenced by this symbol are to be requested to BBC Elettropompe.

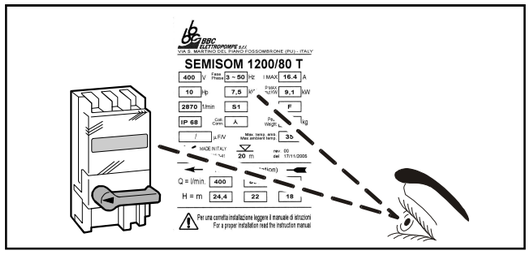
4.4 ELECTRIC CONNECTION

4.4.1
CAUTION!
During the operations of electric connection, the ***DANGER OF ELECTRIC SHOCK*** *is present. For this reason the operation will have to be carried out only by trained personnel (see EN 60204.1 point 3.52).*

4.4.2
Make sure that the system is equipped with proper EARTHLING.

4.4.3
Make sure that the system is equipped with differential switch and check the correct running by pushing the test key. The differential current of nominal running shall not exceed 30 mA.

4.4.4
Check that both voltage and mains frequency correspond to the PLATE data.



Fluctuation of the mains voltage is allowed, provided that this does not exceed ± 10% the nominal value.

NOTES!
Bigger fluctuations might damage the regular running of the machine.

4.4.5
Make sure that the power supply system is dimensioned to stand the machine power.

4.4.6
Make sure that the system is equipped with a proper thermal-magnetic over current circuit breaker with adequate braking power.

NOTE!
The direct connection of the electric pump to the power mains by plug is absolutely prohibited. A control and protection panel has to be installed near the pumping station.

4.4.7
Have the connection diagram at your disposal (see 4.4.11)

4.4.8
ELECTRIC PANEL
As for the safe functioning of the electric pump, the electric panel shall be workmanlike performed, equipped with documentation and certificate of conformity with the regulations in force within the Country of installation.

It has to be made reminding to protect the electric pump from:

- ***Overload***

Always install thermal relay to protect the motor and set. It considering the plate nominal current ;

- ***Over temperature***

The electric pump is equipped with an automatic restarting thermal trip to be connected in series to the coil of the contactor. It is fixed near the winding and breaks continuity in case of motor overheating ;

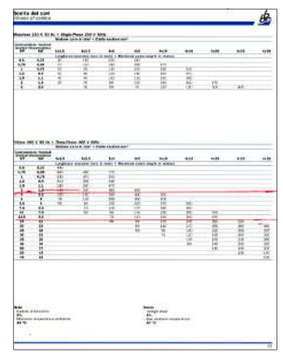
- ***Water infiltration***

The electric pump has a probe which detects presence of water in the first chamber that must be connected to a level control by means of common earth terminal;

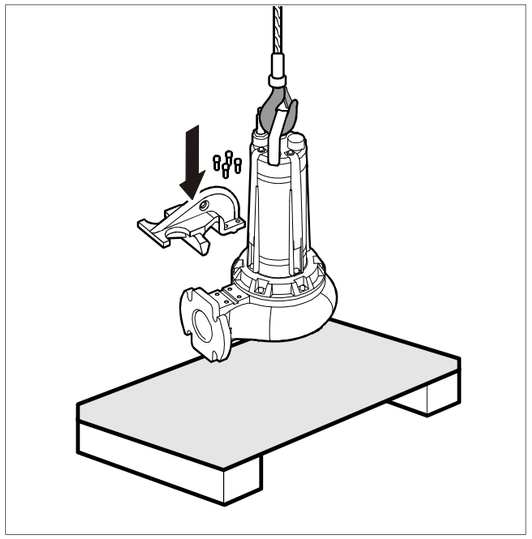
- ***Dry running***

Protect the electric pump with level control devices (ex. float switches, electrodes). The control circuit must be a low-voltage one .

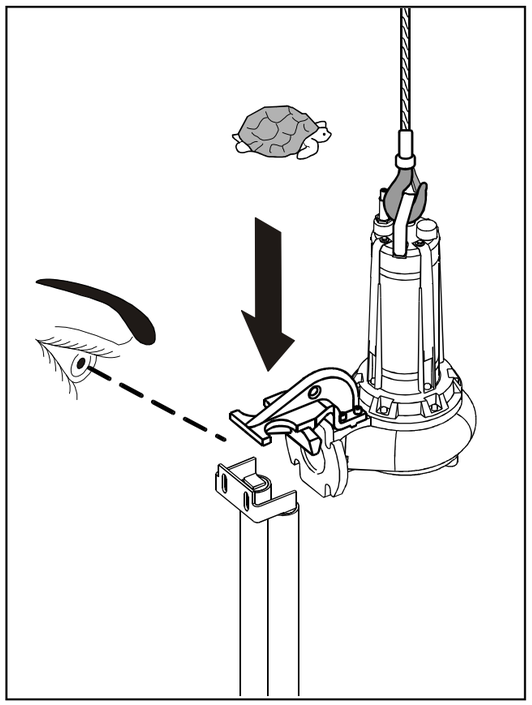
4.4.9
POWER SUPPLY CABLE
THE CABLE OF THE ELECTRIC PUMP IS 10 METRES LONG. IF THE LINE IS OVER 10 METRES DISTANT SEE THE TABLE OF THE BBC GENERAL CATALOGUE "CABLE CHOICE" .



4.3.18
Screw the supplied screws in the connection bracket of the electric pump and TIGHTEN.

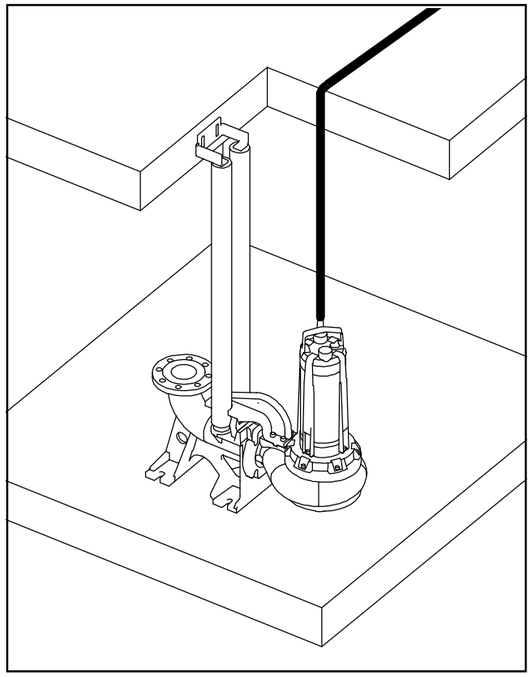


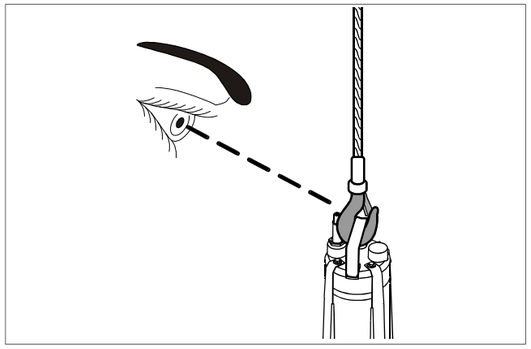
4.3.19
Position the electric pump close to the ***pipe support****.*



4.3.20
By keeping the electric pump hooked, let it gently down along the pipes to the automatic anchorage with the connection foot.

4.3.21
Bring the Power Supply Cable out from the basin*; fix it firmly with clamps, fairleads, etc., so that it does not get to the basin bottom and close to the suction of the electric pump .*





4.3.22
NOTE!
As for the next lifting of the electric pump, leave the safety hook with relevant rope or chain hooked to the handle of the electric pump.

4.3.23
THE INSTALLATION OF THE ELECTRIC PUMP WITH DESCENT AND ANCHORAGE DEVICE is finished.

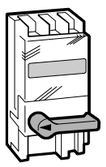
CONTENT

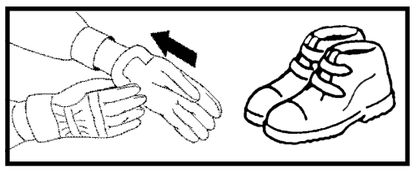
2.1
Before installing the electric pump, the customer shall make sure that the floor on which the machine will be installed is sufficiently levelled and can stand its weight (see ***Technical Particulars Section 3****). Furthermore, he/she will verify the presence of technological devices and sufficient room on all sides for any possible maintenance.*

2.2
Before the installation, the user shall be obliged to verify that the supply mains to which the electric pump will be connected, actually corresponds to the voltage on the plate (see ***Technical Features Section 3****). The user shall also be obliged to check that the mains is also equipped with a suitable earthling. In case it is not, adapt the system.*

2.3
As far as the connection is concerned, follow the laws of the Country where the electric pump will be installed.

2.4
Upstream the machine, on the electric supply line, a differential magnetic-thermal safety switch shall be installed (operation to be charged to the operator) in order to interrupt all phases. (As for dimensioning see ***Technical Particulars Section 3****).*



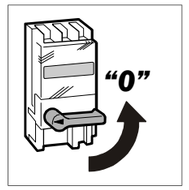


2.5
The personnel chosen for the handling of the electric pump and its accessories will have to wear gloves and accident prevention shoes.

2.6
As for the handling operations of the unpacked machine, See Section 4 - Handling, Installation and Connection.

2.7
UNEXPERIENCED PERSONS MUST NOT USE THE ELECTRIC PUMP SEMISOM/80 .

2.8
*In case of trouble, immediately turn the General Switch of the Mains on "0" (****zero****).*

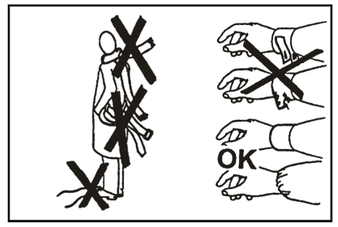


2.9
The operation of servicing, maintenance, repairing of the electric pump shall be carried out only by QUALIFIED ELECTRIC MAINTENANCE OPERATOR OR MECHANICAL MAINTENANCE OPERATOR who knows both safety instructions and content of this manual.

2.10
ZERO POWER STATE
Prior of carrying out any interventions on the electric pump, switch it on ***0 "ZERO"****.*

- *Turn the GENERAL SWITCH on "0"*
- *Remove fuses (if present).*
- *Indicate "WORK IN PROGRESS" by putting a panel on mains switch.*

THE ELECTRIC PUMP IS EQUIPPED WITH RESWTHICING DEVICES WHICH MAY PROVOKE ITS AUTOMATIC RESTARTING!



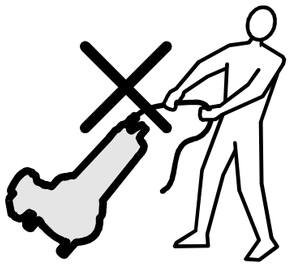
2.11
*The personnel prepared to operate on the electric pump shall have the following IPD (****Individual Protection Devices****) at disposal:*
helmet, protection glasses, oxygen set, safety sling, gloves, accident prevention shoes, which shall be used when required.

The same personnel shall also:

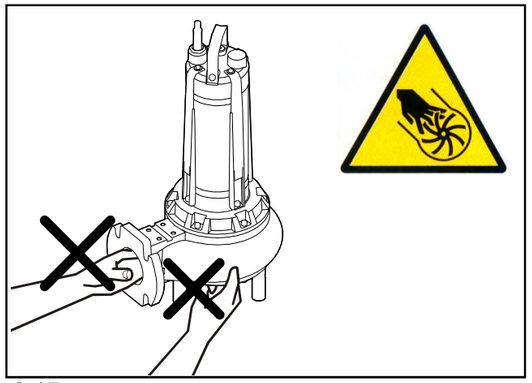
- *Wear work overalls with closed cuffs*
- *Tie hair if this is long*
- *Never wear fluttering and/or torn objects and/or clothing (i.e., necklaces, watches, rings, bracelets, scarves, neckerchiefs, ties, etc.).*

2.12
CAUTION! DANGER OF INFECTIONS!
Before carrying out any interventions on the electric pump, the personnel operating shall make sure to use all the hygiene and health measures; ***clean the electric pump Semisom/80 accurately using a hot water-cleaner.***

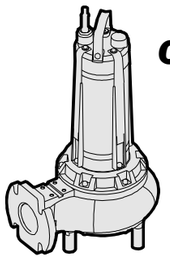
2.13
NOTE!
Do not move and do not handle the electric pump by using its cable.

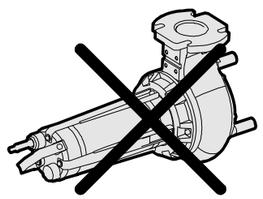


2.14
CAUTION! DANGER OF SHEARING, CUTTING AND ABRASION!
Do not put hands nor any objects near the impeller, that is to say at the inlet or outlet openings of the electric pump.

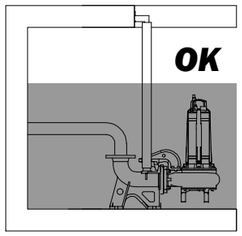


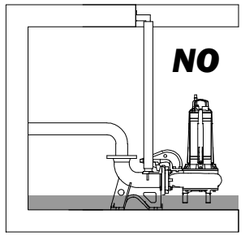
2.15
The electric pump Semisom /80 can work ***only in vertical position****.*
(Motor up and pump section down).



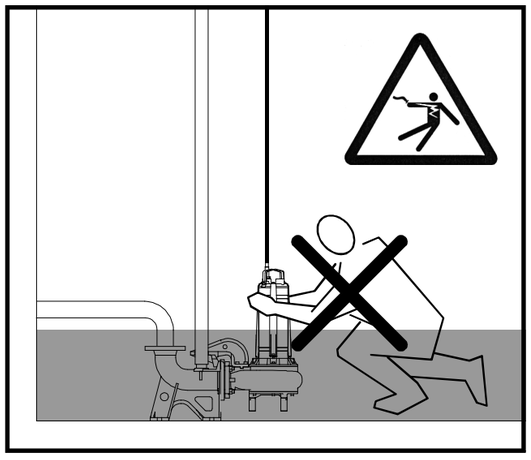


2.16
Start the electric pump only when this is completely well-fixed and permanently installed. ***NEVER START IT WITHOUT LIQUID.***





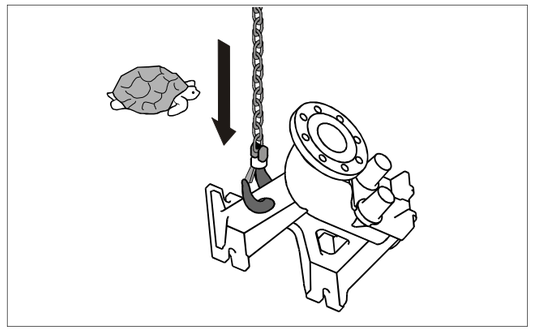
2.17
CAUTION! DANGER OF ELECTROCUTION!
The electric pump Semisom/80 ***MUST NOT be used NOR started*** *if somebody is in contact with the liquid to be pumped.*



2.18
IT IS FORBIDDEN TO CARRY OUT IMPROVISED REPAIRINGS JUST TO START WORKING IN ANY CASE.

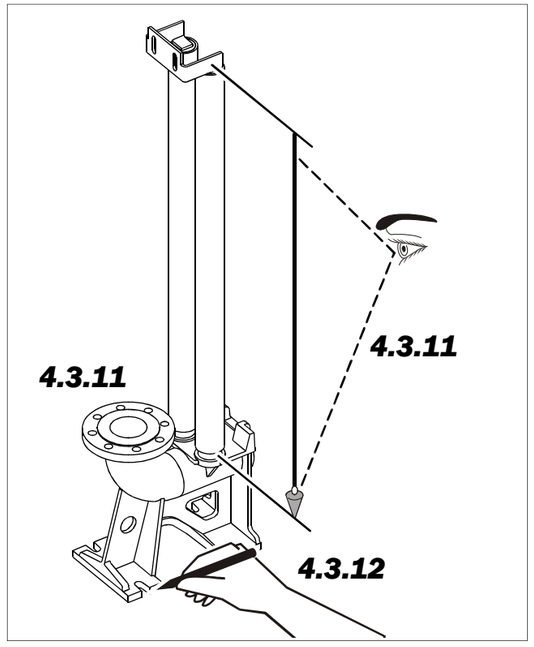
2.19
Make sure that there are no tools, rags and other material left inside the electric pump or where it is installed.

4.3.9
Let the connection foot ***gently*** *down into the place of installation.*



4.3.10
Release the ***safety hook****.*

4.3.11
Two persons *will position the* ***connection foot*** *so that the pipes will be perpendicular to the* ***pipe support.****.*



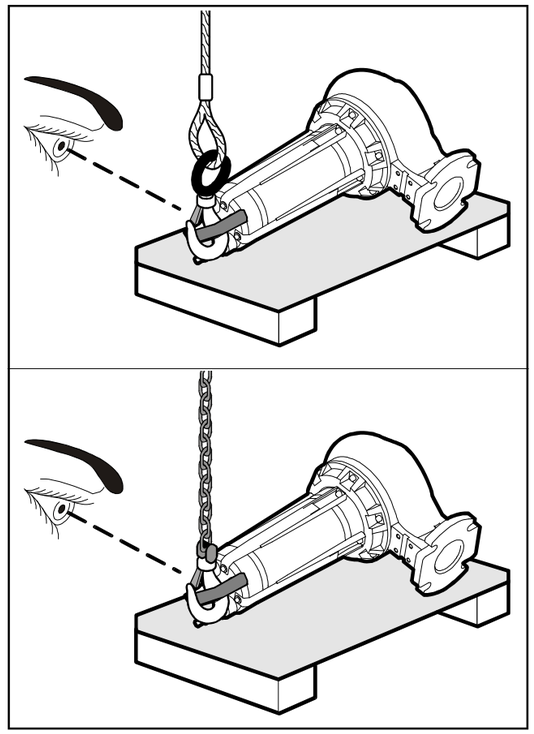
4.3.12
Mark the points where the holes shall be executed
- Drill the holes
- Introduce the 4 small blocks supplied
- Position the connection foot
- Tighten the screws of the small blocks.

4.3.13
Position the pipes inside the housing of the ***connection foot*** *and housing of the* ***pipe support****.*

4.3.14
Tighten the screws of the ***pipe support****.*

4.3.15
NOTE!
If the pipes are over 4 metres long, position the median bracket/s for support.

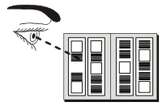
4.3.16
Introduce the ***safety hook*** *into the handle of the electric pump and make sure that the safety lock is in a correct position.*
.



4.3.17
NOTE!
At this point it is necessary to verify the sense of rotation of the impeller.

Execute all the operations described from point 4.2.5 to point 4.2.7 a, b, c, d, e, f, included.

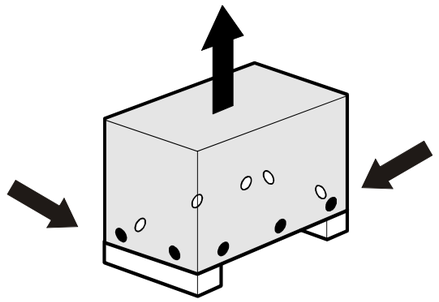
4.3
INSTALLATION WITH DESCENT AND ANCHORAGE DEVICE (optional)



NOTA!

4.3.1
Before beginning the installation, read sections 4.1., 4.3 and 4.4 of this manual.

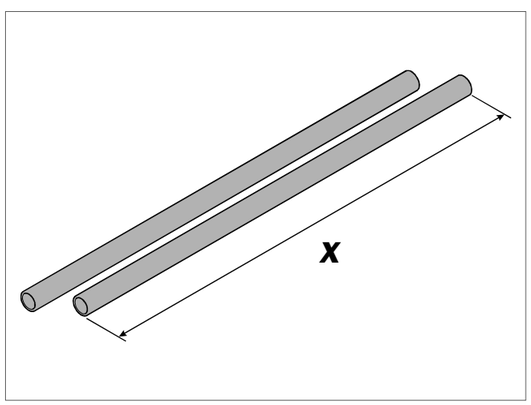
4.3.2
Unscrew the screws at the lowest part of the box and remove the lid from the base.



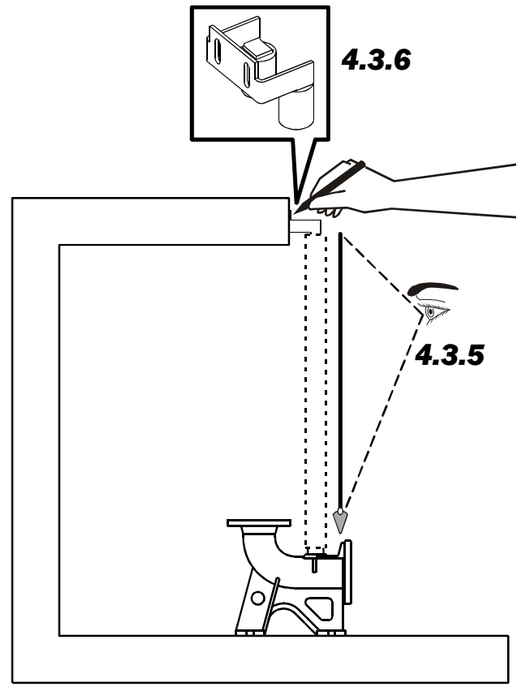
4.3.3
*Take a means (ex. winch, pulley, etc.) with **suitable capacity** and **safety hook** at its end.*

4.3.4
Take a Ø 2 inch pipe of length required for the sliding of the device.

If the basin is more than 4 metres deep, take (along with pipes) also some median brackets for both support and joining of the pipes.

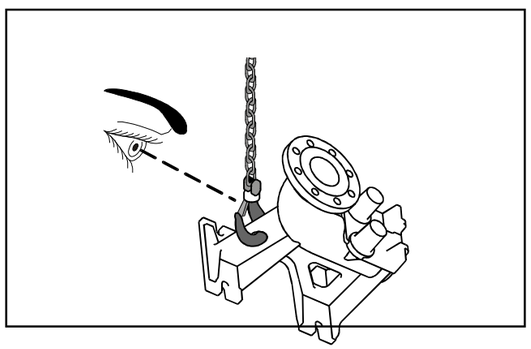


4.3.5
*Decide where to put the **pipe support** so that the pipes are perpendicular to the **connection foot** which will be positioned later.*



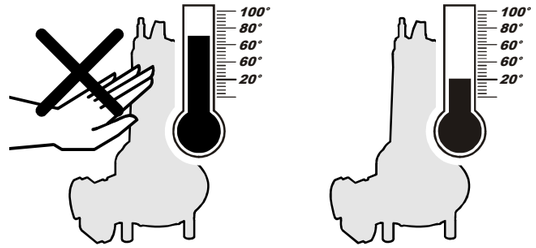
4.3.6
Mark the points where the holes will be executed
- Drill the holes
- Insert the small blocks
*- Fix the screws but **DO NOT TIGHTEN THEM**.*

4.3.7
*Introduce the **safety hook** into the **connection foot** and make sure that the safety lock Is in the correct position.*

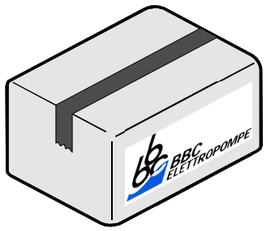


4.3.8
KEEP ANYONE AWAY FROM THE PLACE OF INSTALLATION.

2.20
Since the electric pump can reach very high temperatures, wait until it cools down before handling it.

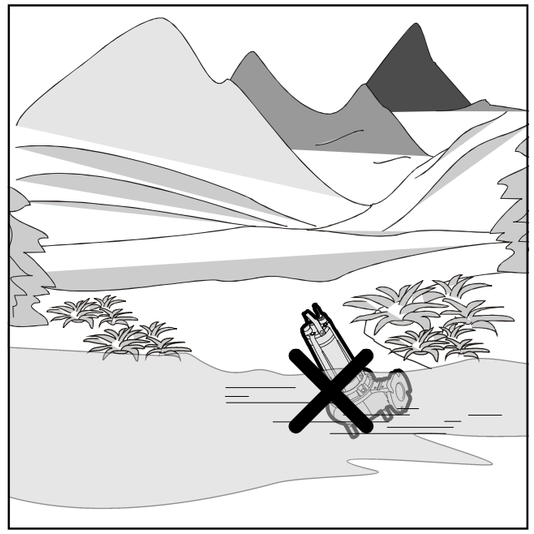


2.21
***Always** use and ask for original spare parts.*



2.22
The oils contained inside the electric pump are not soluble in water; for this reason, their disposal will be carried out following the regulations in force.

2.23
As soon as the machine has finished its life cycle, do not get rid of it in the environment.
Please contact the firms in charge for Waste Disposal.



SECTION 3
TECHNICAL FEATURES

2 pole 50 Hz - VORTEX IMPELLER							
	P2		P1				
Three-phase 400V - 50 Hz	HP	KW	KW	A max	Cable m.	DNM	Solid passage Ø
SEMISOM 1555/80 T	5,5	4	5,34	9,15	10	80	74
SEMISOM 1255/80 T	5,5	4	5,31	9,1	10	80	74
SEMISOM 1055/80 T	5,5	4	5,41	9,2	10	80	74
SEMISOM 1775/80 T	7,5	5,5	6,8	11,9	10	80	74
SEMISOM 1675/80 T	7,5	5,5	7	12	10	80	74
SEMISOM 1375/80 T	7,5	5,5	6,8	11,9	10	80	74
SEMISOM 2100/80 T	10	7,5	9	16,2	10	80	74
SEMISOM 1600/80 T	10	7,5	9	16,2	10	80	74
SEMISOM 1200/80 T	10	7,5	9,1	16,4	10	80	74

Flow rate														
m³/h	0	12	24	30	36	48	60	72	78	90	96	108	114	123
l/m	0	200	400	500	600	800	1000	1200	1300	1500	1600	1800	1900	2050
Total manometric head in meters														
1555/80 T	14	13,6	13	12,6	12,1	10,6	8,2	6,3	5,5	4				
1255/80 T	15,5	14,8	14,1	13,7	13,2	11,9	9,7	7,7						
1055/80 T	17	16,5	15,9	15,5	15,1	13,7	11,4							
1775/80 T	17	16,5	15,9	15,5	15,1	13,7	11,4	9,1	8,1	6,5	5,7	4,4		
1675/80 T	19	18,3	17,6	17,2	16,8	15,6	13,7	11,1	9,9	8,1	7,4			
1375/80 T	21	20,1	19	18,5	18	16,8	15	12,7	11,6					
2100/80 T	21	20,1	19	18,5	18	16,8	15	12,7	11,6	9,6	8.7	6,7	5,7	4
1600/80 T	24	23,2	22,3	21,7	21,3	19,9	18,3	16,1	14,9	12,6				
1200/80 T	27	25,7	24,4	23,8	23,2	22	20,4	18						

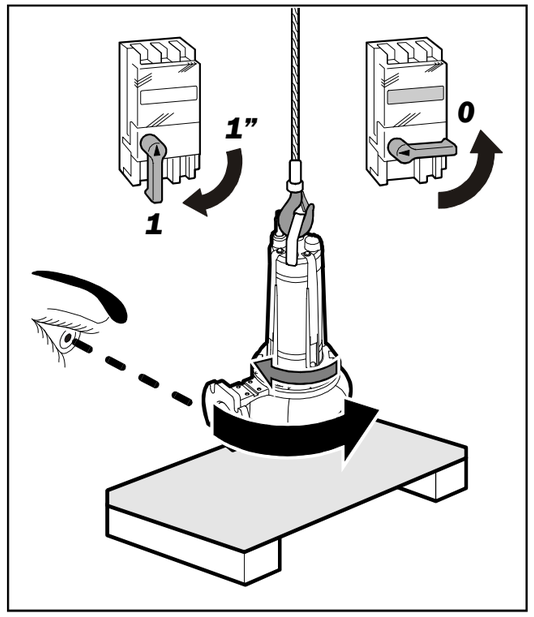
2 pole 50 Hz - DOUBLE CHANNEL IMPELLER													
	P2		P1										
Three-phase 400V - 50 Hz	HP	KW	KW	A max	Cable m.	DNM	Solid passage Ø						
SEMISOM 2700/80 T	11	8	10,4	18	10	80	45x62						
Flow rate													
m³/h	0	30	45	60	72	78	90	96	108	123	135	150	165
l/m	0	500	750	1000	1200	1300	1500	1600	1800	2050	2250	2500	2750
Total manometric head in meters													
2700/80 T		20	18,5	17	15,8	15,3	14	13,4	12,1	10,4	8,7	6,5	4

4 pole 50 Hz - VORTEX IMPELLER														
	P2		P1											
Three-phase 400V - 50 Hz	HP	KW	KW	A max	Cable m.	DNM	Solid passage Ø							
SEMISOM 1504/80 T	3,5	2,6	3,64	8,15	10	80	74							
Flow rate														
m³/h	0	12	24	30	36	48	60	66	72	78	84	90		
l/m	0	200	400	500	600	800	1000	1100	1200	1300	1400	1500		
Total manometric head in meters														
1504/80 T	9,7	9,3	8,8	8,6	8,3	7,6	6,8	6,3	5,8	5,4	4,9	4,4		

P1 = Maximum power absorbed by the mains **P2** = Nominal power of the motor

c. Turn the MAINS SWITCH on **"1" for 1 (one) second**, then reposition it on "0" zero.

d. Check the RECOIL of the electric pump. **IT MUST BE OPPOSITE TO THE SENSE OF THE ARROW**



- If the SENSE OF ROTATION is correct, proceed as follows.

- If the SENSE OF ROTATION is not correct, it is necessary FOR THE ELECTRIC MAINTENANCE OPERATOR **to invert two poles** at the terminal board of the MAINS SWITCH. Afterwards, repeat the operations at 4.2.7 **a, b, c, d**.

NOTE!
A wrong SENSE OF ROTATION provokes reduction of flow rate, rise in absorption and damages to the electric pump.

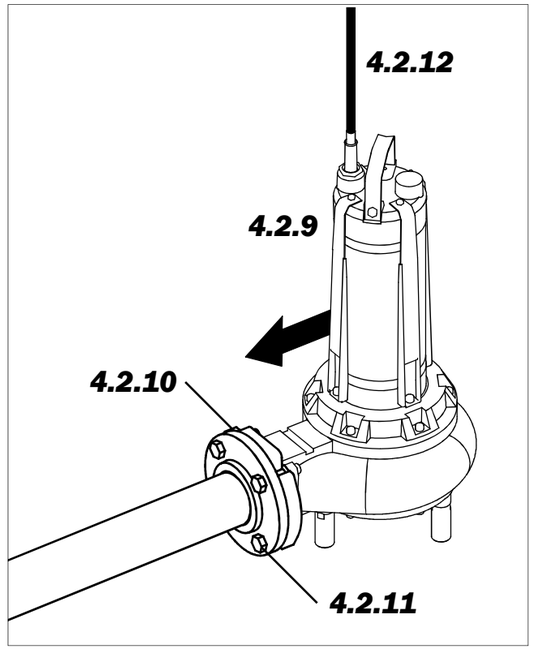
e. **Disconnect the electric pump from the terminal boards of the MAINS SWITCH.**

f. The check OF THE SENSE OF ROTATION is finished.

4.2.8
Paying attention to the electric cable, **gently** let the electric pump down until it reaches the place of installation.

4.2.9
Operation to executed by two persons!
Release the **safety hook** and position the electric pump close to the system flange.

4.2.10
Position the gasket between the two flanges.

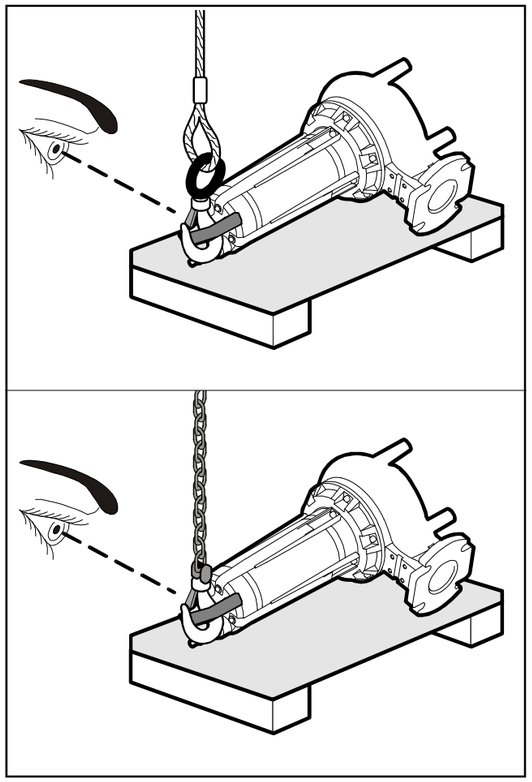


4.2.11
Introduce the bolts into the holes and screw in the nuts. Tighten all nuts well.

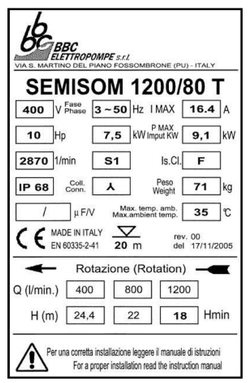
4.2.12
Let the Power Supply Cable out from the basin; fix it firmly with clamps, fairleads, etc., so that it will not get to the basin bottom and close to the suction of the electric pump .

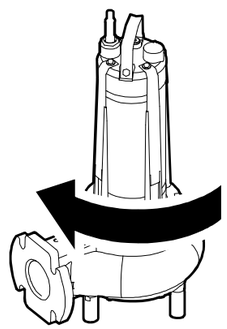
4.2.13
THE INSTALLATION OF THE ELECTRIC PUMP WITHOUT DESCENT AND ANCHORAGE DEVICE is finished.

4.2.4
*Introduce the **safety hook** into the handle of the electric pump and make sure that the safety lock is in its proper position.*

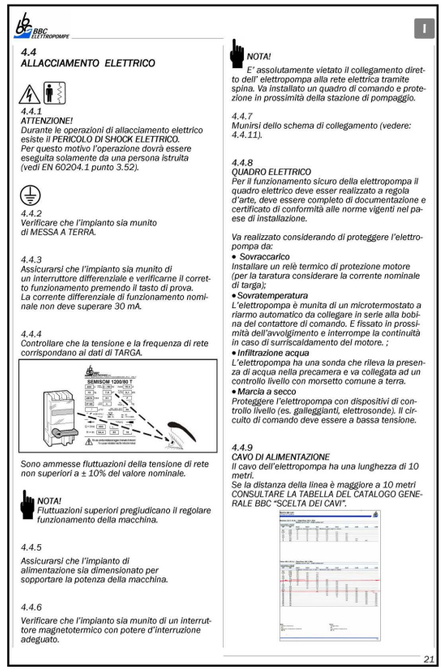


4.2.5
It is now necessary to check the sense of rotation of the impeller.
The correct sense of rotation is printed on the label.


BBC ELETTROPOMPE S.r.l.
VIA S. MARTINO DEL PIANO FOSSOMBRONE (PU) - ITALY
SEMISOM 1200/80 T
400 V Fase/Phase 3~50 Hz I MAX 16.4 A
10 Hp 7,5 kW P MAX Input KW 9,1 kW
2870 1/min S1 Is.Cl. F
IP 68 Coll. Conn. Peso Weight 71 kg
/ µ F/V Max. temp. amb. Max.ambient temp. 35 °C
MADE IN ITALY EN 60335-2-41 20 m rev. 00 del 17/11/2005
Rotazione (Rotation)
Q (l/min.) 400 800 1200
H (m) 24,4 22 18 Hmin
Per una corretta installazione leggere il manuale di istruzioni
For a proper installation read the instruction manual



4.2.6
BEFORE STARTING THE OPERATION DESCRIBED AT 4.2.7, IT IS NECESSARY TO EXECUTE THE ELECTRIC CONNECTION AS DESCRIBED IN 4.4 "ELECTRIC CONNECTION".



BBC ELETTROPOMPE — I

4.4 ALLACCIAMENTO ELETTRICO

4.4.1 *ATTENZIONE!*
Durante le operazioni di allacciamento elettrico esiste il PERICOLO DI SHOCK ELETTRICO.
Per questo motivo l'operazione dovrà essere eseguita solamente da una persona istruita (vedi EN 60204.1 punto 3.52).

4.4.2 *Verificare che l'impianto sia munito di MESSA A TERRA.*

4.4.3 *Assicurarsi che l'impianto sia munito di un interruttore differenziale e verificarne il corretto funzionamento premendo il tasto di prova. La corrente differenziale di funzionamento nominale non deve superare 30 mA.*

4.4.4 *Controllare che la tensione e la frequenza di rete corrispondano ai dati di TARGA.*

Sono ammesse fluttuazioni della tensione di rete non superiori a ± 10% del valore nominale.

NOTA! *Fluttuazioni superiori pregiudicano il regolare funzionamento della macchina.*

4.4.5 *Assicurarsi che l'impianto di alimentazione sia dimensionato per sopportare la potenza della macchina.*

4.4.6 *Verificare che l'impianto sia munito di un interruttore magnetotermico con potere d'interruzione adeguato.*

NOTA! *E' assolutamente vietato il collegamento diretto dell' elettropompa alla rete elettrica tramite spina. Va installato un quadro di comando e protezione in prossimità della stazione di pompaggio.*

4.4.7 *Munirsi dello schema di collegamento (vedere: 4.4.11).*

4.4.8 *QUADRO ELETTRICO*
Per il funzionamento sicuro della elettropompa il quadro elettrico deve esser realizzato a regola d'arte, deve essere completo di documentazione e certificato di conformità alle norme vigenti nel paese di installazione.

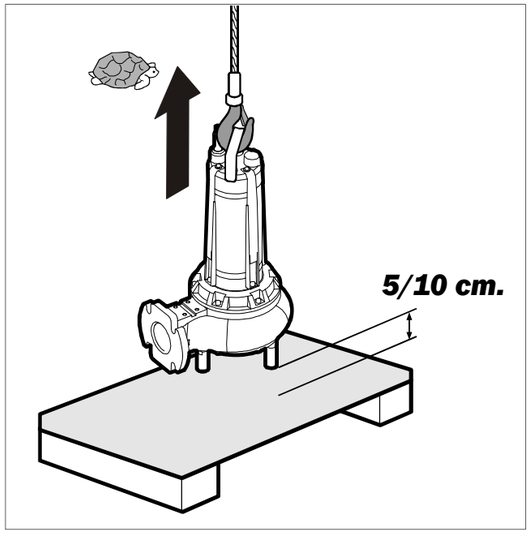
Va realizzato considerando di proteggere l'elettropompa da:
- ***Sovraccarico***
Installare un relè termico di protezione motore (per la taratura considerare la corrente nominale di targa);
- ***Sovratemperatura***
L'elettropompa è munita di un microtermostato a riarmo automatico da collegare in serie alla bobina del contattore di comando. È fissato in prossimità dell'avvolgimento e interrompe la continuità in caso di surriscaldamento del motore. ;
- ***Infiltrazione acqua***
L'elettropompa ha una sonda che rileva la presenza di acqua nella precamera e va collegata ad un controllo livello con morsetto comune a terra.
- ***Marcia a secco***
Proteggere l'elettropompa con dispositivi di controllo livello (es. galleggianti, elettrosonde). Il circuito di comando deve essere a bassa tensione.

4.4.9 *CAVO DI ALIMENTAZIONE*
Il cavo dell'elettropompa ha una lunghezza di 10 metri.
Se la distanza della linea è maggiore a 10 metri CONSULTARE LA TABELLA DEL CATALOGO GENERALE BBC "SCELTA DEI CAVI".

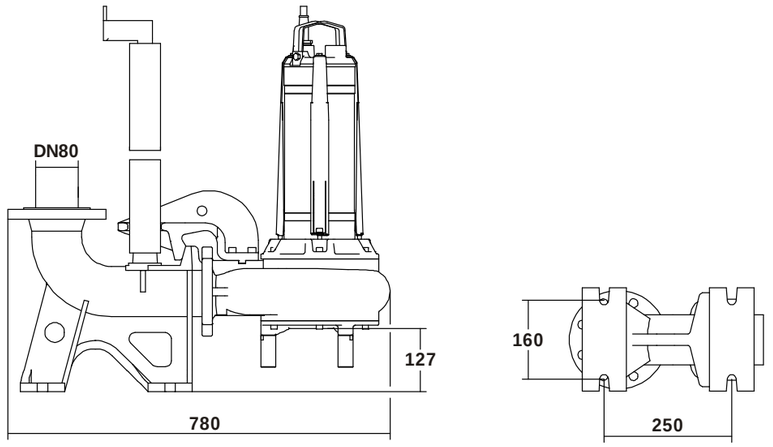
21

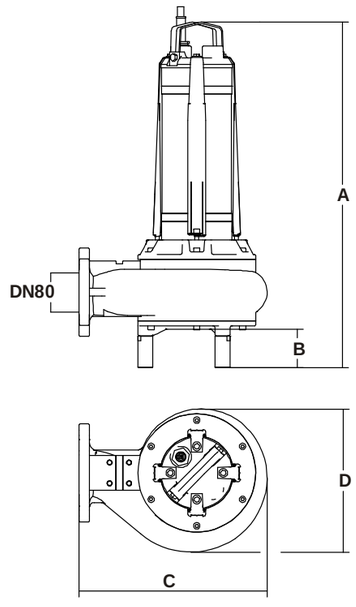
4.2.7
CHECK OF THE SENSE OF ROTATION

a. ***KEEP ANYONE AWAY FROM THE PLACE OF INSTALLATION;***
b. *Gently position the electric pump in vertical position and lift it **5-10 centimetre** from the grounds.*



TYPE	DIMENSIONS				WEIGHT
	A	B	C	D	Kg
SEMISOM 1555/80 T	703	78	383	295	65,5
SEMISOM 1255/80 T	703	78	383	295	65,5
SEMISOM 1055/80 T	703	78	383	295	65,5
SEMISOM 1775/80 T	733	78	383	295	69,0
SEMISOM 1675/80 T	733	78	383	295	69,0
SEMISOM 1375/80 T	733	78	383	295	69,0
SEMISOM 2100/80 T	758	78	383	295	71,0
SEMISOM 1600/80 T	758	78	383	295	71,0
SEMISOM 1200/80 T	758	78	383	295	71,0
SEMISOM 2700/80 T	758	78	383	295	71,0
SEMISOM 1504/80 T	758	78	383	295	71,0





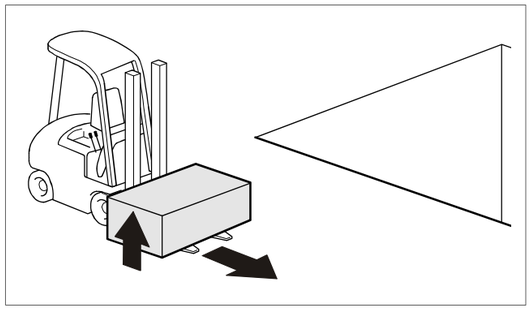
SECTION 4
HANDLING, INSTALLATION AND CONNECTION

*Before starting the handling, installation and connection, read carefully the **Safety Instructions at Section 2** and the **Technical Features at Section 3** of this manual.*

4.1
PRELIMINARY INFORMATION ABOUT, HANDLING, INSTALLATION AND CONNECTION

4.1.1
CAUTION! DANGER OF CRUSH, SHOCK AND ABRASION!
The personnel operating while handling and installing the electric pump shall wear gloves, accident prevention shoes and helmet.

4.1.2
Position the electric pump (and relevant accessories) near the place of installation by means of lifting equipment, fork lift or hand pallet truck.

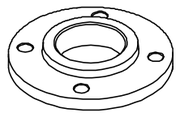


4.1.3
*While installing the electric pump, **NEVER** work alone, use safety belts and individual protection devices (**IPD**).*

4.1.4
CAUTION! DANGER OF INTOXICATION OR POISONING DUE TO TOXIC GAS!
Before installing the electric pump, make sure that there is neither toxic nor inflammable gas.

4.1.5
CAUTION! DANGER OF SLIPPING!
Before installing the electric pump, make sure that there is no mud in the place of installation.

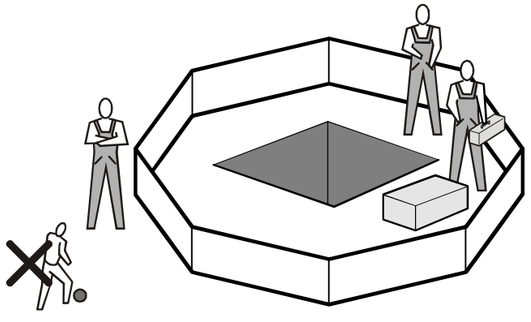
4.1.6
NOTE!
*The connection to the system shall be executed with a **DN80** flange.*



4.1.7
NOTE!
The electric pump Semisom/80 can convey liquids having a maximum volumetric mass equal to 1,1 kg/dm3.

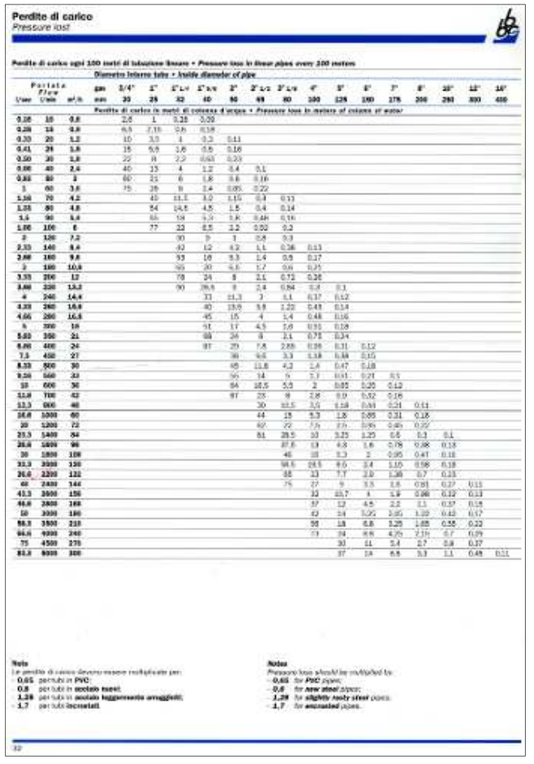
4.1.8
Make sure to have sufficient room in the place where electric pump will be installed.

4.1.9
Enclose the installation area with suitable barriers.

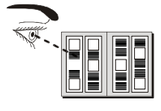


4.1.10
It is advisable to install a NON-RETURN valve at least at 1 (one) metre from the delivery outlet to avoid a possible flow-back of liquid through the delivery pipe.

4.1.11
Make sure that the electric pump to be installed is suitable for the system (see piping Ø, flow of the electric pump, pipe length, etc.).
You can also consult the table of BBC General catalogue "pressure loss".


Perdite di carico
Pressure loss

NOTE!
4.1.12

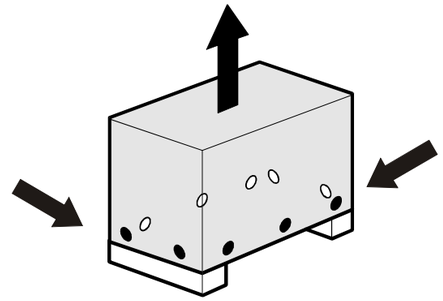


Before the installation, read all the paragraphs (4.2, 4.3 and 4.4) so as to be ready to any need.

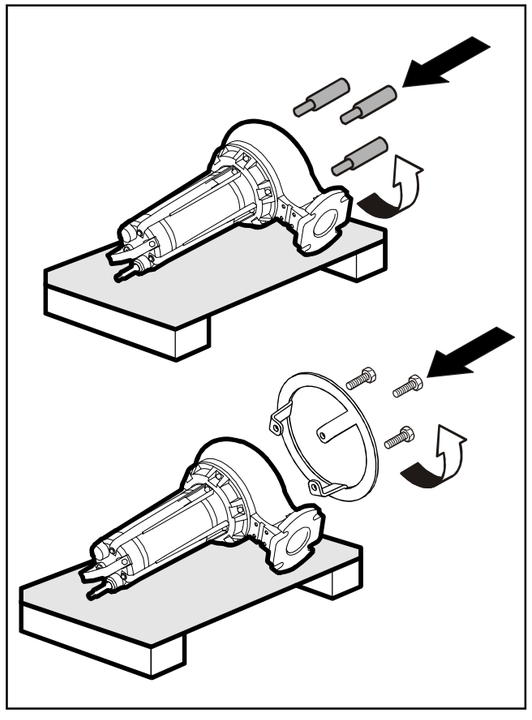
4.1.13
The preliminary information concerning HANDLING, INSTALLATION AND CONNECTION are finished.

4.2
INSTALLATION WITHOUT DESCENT AND ANCHORAGE DEVICE (optional)

4.2.1
Unscrew all screws at the lowest part of the box and remove the lid from the base.



4.2.2
Screw in the 3 supports to the volute of the electric pump or the BEARING BASE (optional) with the screws TE M16x25.



4.2.3
Use any device (ex. hoist, pulley, etc.) with suitable capacity and safety hook at its end.